

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-7 (canceled)

Claim 8 (currently amended) A DSL line interface unit for transmitting a DSL transmit signal to a transmission line and for receiving a DSL receive signal from the transmission line, the DSL line interface unit comprising:

- a differential line driver including a first amplifier, a second amplifier, a first resistor and a second resistor, the first amplifier including a first positive input terminal and a first negative input terminal and the second amplifier including a second positive input terminal and a second negative input terminal, the first resistor coupled between an output of the first amplifier and the first negative input terminal and the second resistor coupled between an output of the second amplifier and the second negative input terminal;
- a first complex termination module including a third resistor and a first capacitor coupled to the third resistor in parallel, the third resistor and the first capacitor being coupled to the output of the first amplifier;
- a second complex termination module including a fourth resistor and a second capacitor coupled to the fourth resistor in parallel, the fourth resistor and the second capacitor coupled to the output of the second amplifier;
- a transformer including a primary winding coupled to the transmission line and a secondary winding having a first winding end coupled to the third resistor and the first capacitor and a second winding end coupled to the fourth resistor and the second capacitor; and

- an impedance synthesizer module including a fifth resistor, a sixth resistor, a seventh resistor, a fifth resistor being coupled between center taps of the secondary winding of the transformer and having a first end and a second end, the sixth resistor coupled between the first end of the fifth resistor and the first negative input terminal of the first amplifier, and the seventh resistor coupled between the second end of the fifth resistor and the second negative input terminal of the second amplifier, the fifth resistor detecting a voltage between the center taps of the secondary winding of the transformer and providing negative feedback to the first amplifier and the second amplifier via the sixth resistor and the seventh resistor, respectively.

Claims 9-13 (canceled)

Claim 14 (new) A DSL line interface unit for transmitting a DSL transmit signal to a transmission line and for receiving a DSL receive signal from the transmission line, the DSL line interface unit comprising:

- a differential line driver including a first amplifier, a second amplifier, a first resistor and a second resistor, the first amplifier including a first positive input terminal and a first negative input terminal and the second amplifier including a second positive input terminal and a second negative input terminal, the first resistor coupled between an output of the first amplifier and the first negative input terminal and the second resistor coupled between an output of the second amplifier and the second negative input terminal;
- a first complex termination module including a first inductor and a first capacitor coupled in parallel to one another at the output of the first amplifier;
- a second complex termination module including a second inductor and a second capacitor coupled in parallel to one another at the output of the second amplifier;
- a transformer including a primary winding coupled to the transmission line and a secondary winding having a first winding end coupled to the first inductor and the first capacitor and a second winding end coupled to the second inductor and the second capacitor; and

- an impedance synthesizer module including a fifth resistor, a sixth resistor, a seventh resistor, a fifth resistor being coupled between center taps of the secondary winding of the transformer and having a first end and a second end, the sixth resistor coupled between the first end of the fifth resistor and the first negative input terminal of the first amplifier, and the seventh resistor coupled between the second end of the fifth resistor and the second negative input terminal of the second amplifier, the fifth resistor detecting a voltage between the center taps of the secondary winding of the transformer and providing negative feedback to the first amplifier and the second amplifier via the sixth resistor and the seventh resistor, respectively.